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1/41

SEQUENCE LISTING

<110> Alexion Pharmaceuticals, Inc.
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<210> 8
 <211> 235
 <212> PRT
 <213> human

<400> 8

Met Lys Trp Ser Trp Val Ile Leu Phe Leu Leu Ser Val Thr Ala Gly
 1 5 10 15

Val His Ser Gln Val Gln Val Gln Ser Gly Ala Glu Leu Ala Arg
 20 25 30

Pro Trp Ala Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Asn Phe
 35 40 45

Asn Ser Tyr Trp Met Gln Trp Val Lys Gln Arg Pro Gly Gln Gly Leu
 50 55 60

Glu Trp Ile Gly Ala Ile Tyr Pro Gly Asp Gly Asp Thr Ser Tyr Thr
 65 70 75 80

Gln Lys Phe Arg Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser
 85 90 95

Thr Ala Tyr Met Gln Leu Ser Ser Leu Ala Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Arg Thr Val Gly Gly Tyr Phe Asp Tyr Trp Gly
 115 120 125

Gln Gly Thr Thr Leu Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 130 135 140

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
 145 150 155 160

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 165 170 175

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 180 185 190

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
195 200 205

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
210 215 220

Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val
225					230					235

<210> 9
<211> 2026
<212> DNA
<213> human

<400> 9
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tgtctctggg taaatgagtg ccagggccgg caagccccgg ctccccgggc tctcggggtc	1860
gcgcgaggat gcttggcacg tacccgtct acatacttcc caggcaccca gcatggaaat	1920
aaagcacccca ccactgcccct gggccctgt gagactgtga tggttcttc cacgggtcag	1980
gccgagtctg aggcctgagt gacatgagga attcagatct ggatcc	2026

<210> 10
 <211> 119
 <212> PRT
 <213> murine

<400> 10

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Ala Arg Pro Gly Ala			
1	5	10	15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg Tyr		
20	25	30

Thr Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile		
35	40	45

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Asn Gln Lys Phe		
50	55	60

Lys Asp Lys Ala Thr Leu Thr Asp Lys Ser Ser Ser Thr Ala Tyr			
65	70	75	80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys		
85	90	95

Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Thr Leu Thr Val Ser Ser
 115

<210> 11
 <211> 119
 <212> PRT
 <213> artificial sequence

<220>
 <223> de-immunized heavy chain variable region

<400> 11

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Ala Thr Arg Tyr
 20 25 30

Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Gln Lys Phe
 50 55 60

Gln Asp Arg Val Thr Ile Thr Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Thr Val Thr Val Ser Ser
 115

<210> 12
 <211> 119
 <212> PRT
 <213> artificial sequence

<220>
 <223> de-immunized heavy chain variable region

<400> 12

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Ala Thr Arg Tyr
 20 25 30

Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Thr Val Thr Val Ser Ser
 115

<210> 13
 <211> 119
 <212> PRT
 <213> artificial sequence

<220>
 <223> de-immunized heavy chain variable region

<400> 13

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Ala Thr Arg Tyr
 20 25 30

Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Asn Gln Lys Phe
 50 55 60

Lys Asp Arg Val Thr Ile Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Thr Val Thr Val Ser Ser
 115

<210> 14
 <211> 119
 <212> PRT
 <213> artificial sequence

<220>
 <223> de-immunized heavy chain variable region

<400> 14

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Ala Thr Arg Tyr
 20 25 30

Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Asn Gln Lys Val
 50 55 60

Lys Asp Arg Phe Thr Ile Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Thr Val Thr Val Ser Ser
 115

<210> 15
 <211> 119
 <212> PRT
 <213> artificial sequence

<220>

<223> de-immunized heavy chain variable region

<400> 15

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala
1				5					10					15	

Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Arg	Tyr
		20					25						30		

Thr	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Ile
			35			40						45			

Gly	Tyr	Ile	Asn	Pro	Ser	Arg	Gly	Tyr	Thr	Asn	Tyr	Asn	Gln	Lys	Phe
		50			55					60					

Lys	Asp	Arg	Val	Thr	Ile	Thr	Thr	Asp	Lys	Ser	Ser	Ser	Thr	Ala	Tyr
65				70				75					80		

Leu	Gln	Met	Asn	Ser	Leu	Lys	Thr	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85				90				95			

Ala	Arg	Tyr	Tyr	Asp	Asp	His	Tyr	Cys	Leu	Asp	Tyr	Trp	Gly	Gln	Gly
				100			105					110			

Thr	Thr	Val	Thr	Val	Ser	Ser									
			115												

<210> 16

<211> 119

<212> PRT

<213> artificial sequence

<220>

<223> de-immunized heavy chain variable region

<400> 16

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala
1				5					10					15	

Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Arg	Tyr
		20					25						30		

Thr	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Ile
			35			40						45			

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Gln Lys Phe
 50 55 60

Gln Asp Arg Val Thr Ile Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Thr Val Thr Val Ser Ser
 115

<210> 17
 <211> 119
 <212> PRT
 <213> artificial sequence

<220>
 <223> de-immunized heavy chain variable region

<400> 17

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg Tyr
 20 25 30

Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Asn Gln Lys Val
 50 55 60

Lys Asp Arg Phe Thr Ile Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Thr Val Thr Val Ser Ser
115

<210> 18
<211> 106
<212> PRT
<213> murine

<400> 18

Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 5 10 15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

Asn Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp Ile Tyr
35 40 45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala His Phe Arg Gly Ser
50 55 60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Gly Met Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Phe Thr
85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Asn
100 105

<210> 19
<211> 106
<212> PRT
<213> artificial sequence

<220>
<223> de-immunized light chain variable region

<400> 19

Gln Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Thr Cys Ser Ala Ser Ser Ser Ala Ser Tyr Met
20 25 30

Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr
35 40 45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu
 65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 20
 <211> 106
 <212> PRT
 <213> artificial sequence

<220>
 <223> de-immunized light chain variable region

<400> 20

Gln Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
 20 25 30

Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr
 35 40 45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu
 65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 21
 <211> 819
 <212> DNA
 <213> artificial sequence

<220>
 <223> de-immunized VH expression cassette

<400> 21
 aagcttatga atatgcaa at cctctgaatc tacatggta atatagg ttt gtctata
 60
 caa acagaaa aacatgagat cacagttgtc tctacagtta ctgagcac
 120
 catggatgg agctgtatca tcctcttctt ggttagcaaca gctacaggta
 180
 agtagcaggc ttgaggcttg gacatata tgggtgacaa tgacatccac
 240
 ttgccttcc tctccacagg tgtccactcc caggtccagc tggtagtgc
 300
 tggggctc agtgaagggt tcctgcaagg cttctggcta cacggctact
 360
 aggtacacga tgcactgggt aagacaggcg cctggaca
 420
 gtttggatg gattggatac attaacccta
 480
 gccatggata tactaattac gtcaga
 540
 tacttccag cacagcctac ttgcaa atga acaggctgaa
 aactgaggac accgcagtct
 attactgtgc aagatattat gatgatcatt actgtctcg
 600
 ctactgggc caaggcacca
 ctgtgacagt ctcctcagg
 660
 gagtccttac aacctctc ttctattc
 cttaaataga
 ttttactgca tttgttgggg gggaaatgtg tgcata
 720
 tggacta
 gggacac
 780
 gggagtcaga aagggtcatt
 gggagcccg
 gctgatgc
 acagacatcc
 tcagctccca
 gacttcatgg
 ccagagattt
 ataggatcc
 819

<210> 22
 <211> 15
 <212> PRT
 <213> artificial sequence

<220>
 <223> signal protein

<400> 22
 Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr
 1 5 10 15

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr
 1 5 10 15

<210> 23
 <211> 617
 <212> DNA
 <213> artificial sequence

<220>
 <223> de-immunized VK expression cassette

<400> 23
 aagcttatga atatgcaa at cctctgaatc tacatggta atatagg ttt gtctata
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 caa acagaaa aacatgagat cacagttgtc tctacagtta ctgagcac
 120

catggatgg agctgtatca tcctcttctt	180
agtagcagggc ttgaggtctg gacatatata tgggtgacaa tgacatccac	240
tctccacagg tgtccactcc caaattgttc tcacccagtc tccagcaacc	300
ctccagggga acgcgccacc ttgacatgca gtgccagctc aagtgcagg	360
gttaccagca gaagccggc aaagctcca aaagatggat ttatgacaca	420
cttctggagt accgtctcgc ttcagtggca gtgggtctgg gaccgattac	480
tcaatagtct ggaagctgaa gatgccgcaa cttattactg ccagcagtgg	540
cattcacgtt cggacaaggta acaaagggtt aaatcaaacg tgagtagaaat	600
cttcctcagt tggatcc	617

<210> 24
 <211> 15
 <212> PRT
 <213> artificial sequence

<220>
 <223> signal protein

<400> 24

Met	Gly	Trp	Ser	Cys	Ile	Ile	Leu	Phe	Leu	Val	Ala	Thr	Ala	Thr
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<210> 25
 <211> 467
 <212> PRT
 <213> murine

<400> 25

Met	Glu	Arg	His	Trp	Ile	Phe	Leu	Leu	Leu	Leu	Ser	Val	Thr	Ala	Gly
1					5				10				15		

Val	His	Ser	Gln	Val	Gln	Leu	Gln	Gln	Ser	Gly	Ala	Glu	Leu	Ala	Arg
						20		25				30			

Pro	Gly	Ala	Ser	Val	Lys	Met	Ser	Cys	Lys	Ala	Ser	Tyr	Thr	Phe	Thr
					35		40				45				

Arg	Tyr	Thr	Met	His	Trp	Val	Lys	Gln	Arg	Pro	Gly	Gln	Gly	Leu	Glu
						50		55			60				

Trp	Ile	Gly	Tyr	Ile	Asn	Pro	Ser	Arg	Gly	Tyr	Thr	Asn	Tyr	Asn	Gln
							65		70		75		80		

Lys Phe Lys Asp Lys Ala Thr Leu Thr Thr Asp Lys Ser Ser Ser Thr
 85 90 95

Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr
 100 105 110

Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly
 115 120 125

Gln Gly Thr Thr Leu Thr Val Ser Ser Ala Lys Thr Thr Ala Pro Ser
 130 135 140

Val Tyr Pro Leu Ala Pro Val Cys Gly Asp Thr Thr Gly Ser Ser Val
 145 150 155 160

Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Leu
 165 170 175

Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala
 180 185 190

Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Thr
 195 200 205

Ser Ser Thr Trp Pro Ser Gln Ser Ile Thr Cys Asn Val Ala His Pro
 210 215 220

Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Glu Pro Arg Gly Pro Thr
 225 230 235 240

Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly
 245 250 255

Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met
 260 265 270

Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu
 275 280 285

Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val
 290 295 300

His Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu
 305 310 315 320

Arg Val Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly
 325 330 335

Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile
 340 345 350

Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val
 355 360 365

Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr
 370 375 380

Leu Thr Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu
 385 390 395 400

Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro
 405 410 415

Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val
 420 425 430

Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val
 435 440 445

His Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr
 450 455 460

Pro Gly Lys
 465

<210> 26
 <211> 1570
 <212> DNA
 <213> murine

<400> 26	
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gctgaactgg caagacctgg ggcctcagtg aagatgtcct gcaaggcttc tggctacacc	180
tttacttaggt acacgatgca ctgggtaaaa cagaggcctg gacagggtct ggaatggatt	240
ggatacatta atcctagccg tggttatact taattacaat cagaagttca aggacaaggc	300
cacattgact acagacaaat cctccagcac agcctacatg caactgagca gcctgacatc	360
tgaggactct gcagtcattt actgtgcaag atattatgtat gatcattact gccttgacta	420

ctggggccaa	ggcaccactc	tcacagtctc	ctcagccaaa	acaacagccc	catcggtcta	480
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 20 25 30

Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser
 35 40 45

Ser Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys Ser Gly Thr Ser
 50 55 60

Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro
 65 70 75 80

Ala His Phe Arg Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile
 85 90 95

Ser Gly Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp
 100 105 110

Ser Ser Asn Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Asn
 115 120 125

Arg Ala Asp Thr Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
 130 135 140

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
 145 150 155 160

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg
 165 170 175

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
 180 185 190

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu
 195 200 205

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
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Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
 225 230 235

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 catctccagg ggagaaggc accatgaccc gcagtgccag ctcaagtgtt agttacatga 180

actggtagcca	gcagaagtca	ggcacctccc	ccaaaagatg	gatttatgac	acatccaaac	240
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caatcagcgg	catggaggct	gaagatgctg	ccacttatta	ctgccagcag	tggagtagta	360
accatttcac	gttcggctcg	gggacaaagt	tggaaataaa	ccgggctgat	actgcaccaa	420
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gcttcttcaa	caacttctac	cccaaagaca	tcaatgtcaa	gtggaagatt	gatggcagtg	540
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gcatgagcag	caccctcact	ttgaccaagg	acgagttatga	acgacataac	agctataac	660
gtgaggccac	tcacaagaca	tcaacttcac	ccattgtcaa	gagcttcaac	aggaatgagt	720
gttagagaca	aagggtcctga	gacgccacca	ccagctccca	gctccatcct	atctccctt	780
ctaaggcttt	ggaggcttcc	ccacaagcgc	ttaccactgt	tgcggtgctc	taaacctcct	840
cccacccct	tctccctcctc	ctcccttcc	ttggctttta	tcatgtaat	atttgcagaa	900
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<400> 29

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					20			25				30			

Phe	Thr	Arg	Tyr	Thr	Met	His	Trp	Val	Lys	Gln	Arg	Pro	Gly	Gln	Gly
					35			40			45				

Leu	Glu	Trp	Ile	Gly	Tyr	Ile	Asn	Pro	Ser	Arg	Gly	Tyr	Thr	Asn	Tyr
						50		55			60				

Asn	Gln	Lys	Phe	Lys	Asp	Lys	Ala	Thr	Leu	Thr	Thr	Asp	Lys	Ser	Ser
					65			70			75		80		

Ser	Thr	Ala	Tyr	Met	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Glu	Asp	Ser	Ala
					85			90			95				

Val Tyr Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 115 120

<210> 30
 <211> 110
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<400> 30

Gly Val His Ser Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser
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Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser
 20 25 30

Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys
 35 40 45

Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala His
 50 55 60

Phe Arg Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Gly
 65 70 75 80

Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser
 85 90 95

Asn Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105 110

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 <212> PRT
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<400> 31

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro
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<210> 32
 <211> 110
 <212> PRT
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<400> 32

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Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val
					20			25				30			

Val	Val	Asp	Val	Ser	Gln	Glu	Asp	Pro	Glu	Val	Gln	Phe	Asn	Trp	Tyr
					35			40			45				

Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu
					50			55		60					

Gln	Phe	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His
65					70			75			80				

Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys
					85			90			95				

Gly	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	
					100			105			110			

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 <212> PRT
 <213> human

<400> 33

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Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe
					20			25			30				

Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu
					35			40			45				

Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe
					50			55			60				

Phe	Leu	Tyr	Ser	Arg	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Glu	Gly
65					70			75			80				

Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr
					85			90			95				

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100 105

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<400> 34

Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro
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<210> 35
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<400> 35

Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
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20 25 30

Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val
35 40 45

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
50 55 60

Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
65 70 75 80

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly
85 90 95

Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys
100 105

<210> 36
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<400> 36

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Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
 20 25 30

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
 35 40 45

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
 50 55 60

Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly
 65 70 75 80

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
 85 90 95

Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
 100 105

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36

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Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Ala
20 25 30

Thr Arg Tyr Thr Met His Trp Tyr Arg Gln Ala Pro Gly Gln Gly Leu
35 40 45

Glu Trp Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala
50 55 60

Gln Lys Phe Gln Gln Arg Val Thr Ile Thr Thr Asp Lys Ser Ser Ser
65 70 75 80

Thr Ala Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val
85 90 95

Tyr Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp
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Gly Gln Gly Thr Thr Val Thr Val Ser Gly
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Leu Ser Pro Gly Glu Arg Ala Thr Leu Thr Cys Ser Ala Ser Ser Ser
 20 25 30

Ala Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
 35 40 45

Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg
 50 55 60

Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Asn Ser
 65 70 75 80

Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser
 85 90 95

Asn Pro Phe Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<220>
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